

Deer Disease Management in South Dakota



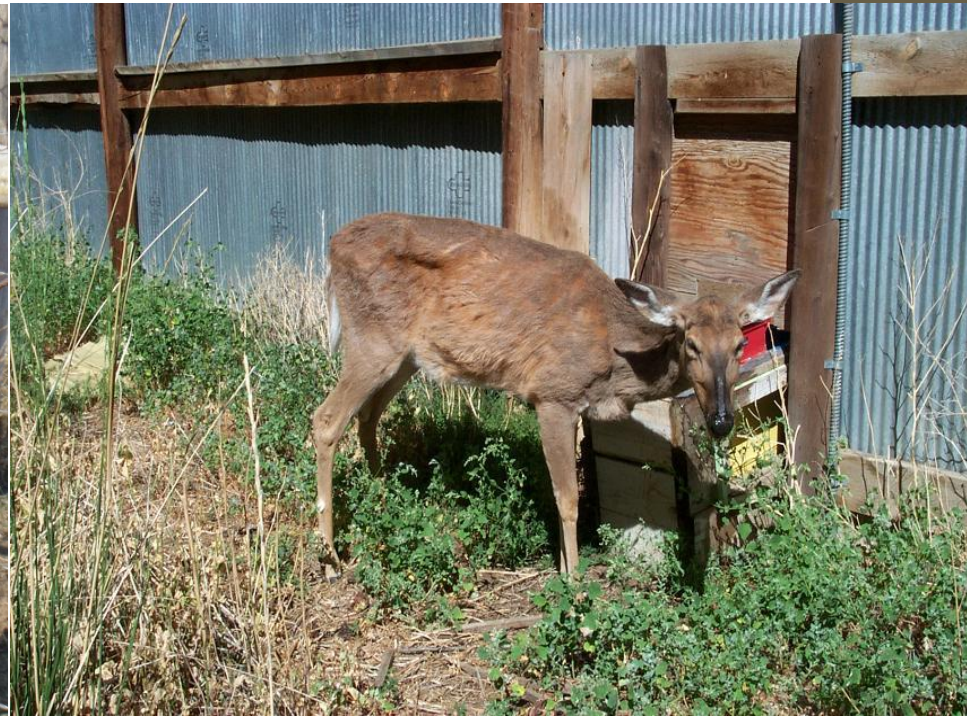
SOUTH DAKOTA
GAME, FISH and PARKS

Steve Griffin: Big Game Wildlife Biologist

Deer in South Dakota are at risk for many diseases and parasites, but we rarely experience high loss of deer from most of them.

At this time, Chronic Wasting Disease and Hemorrhagic Disease pose the largest concern for South Dakota deer herds.

Concerns stem from the unknown population effects of CWD on deer herds, and the high numbers of deer loss that can result from a Hemorrhagic Disease outbreak.



CHRONIC WASTING DISEASE

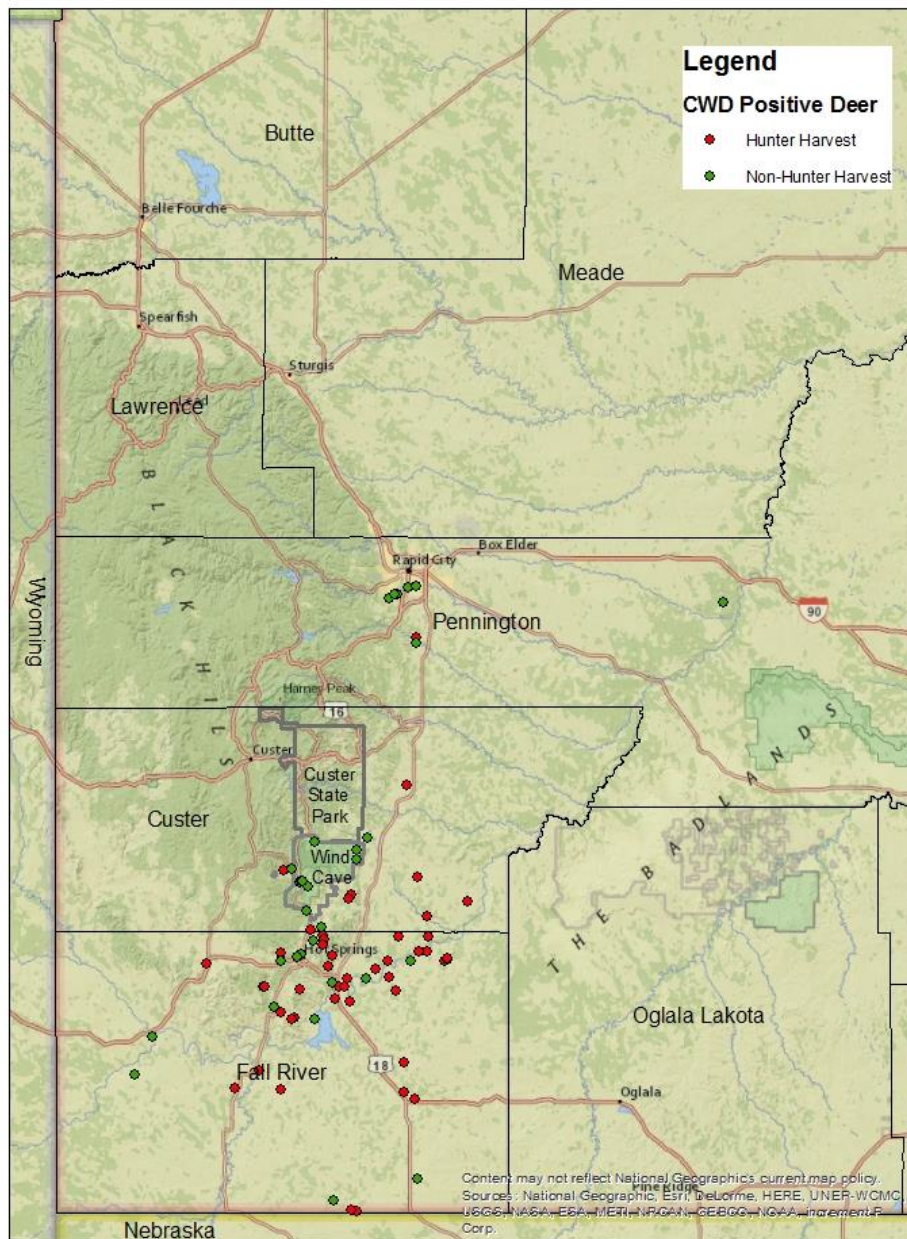


- CWD is a spongiform encephalopathie disease affecting the nervous system of Deer, Elk, and Moose
- Caused by a protein molecule called a prion, which is found in every living thing.
- Infection results in the brain becoming riddled with microscopic holes - which causes a degeneration of the ability of the nervous system to function.
- Fatality rates are 100% - but usually a result of secondary infections (i.e. pneumonia).
- Highly suspected to be spread laterally from animal to animal contact through saliva or from urine or feces.
- Evidence also suggests that infected carcasses can pass along the disease through environmental contamination.

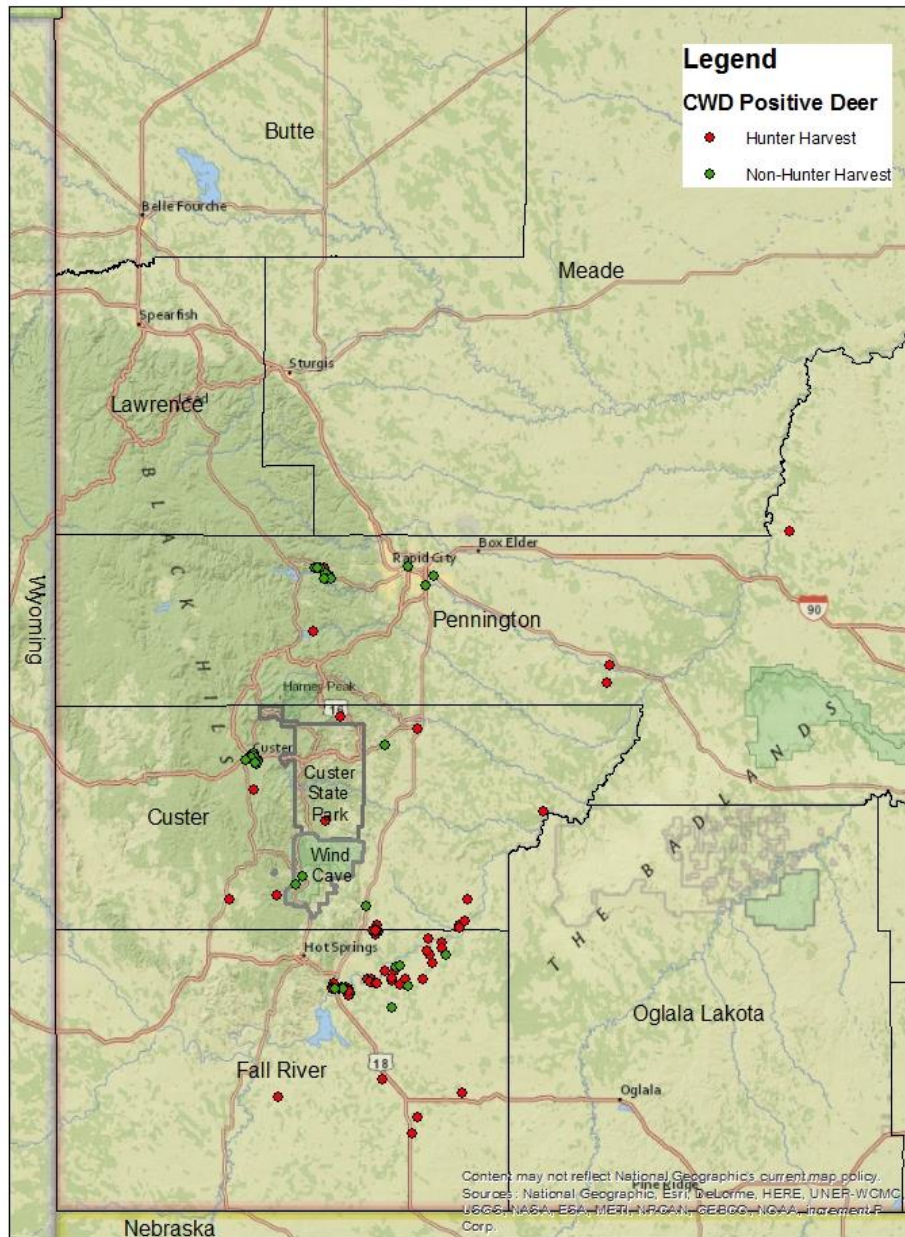
CWD positive deer in Rapid City



CWD Positive Mule Deer



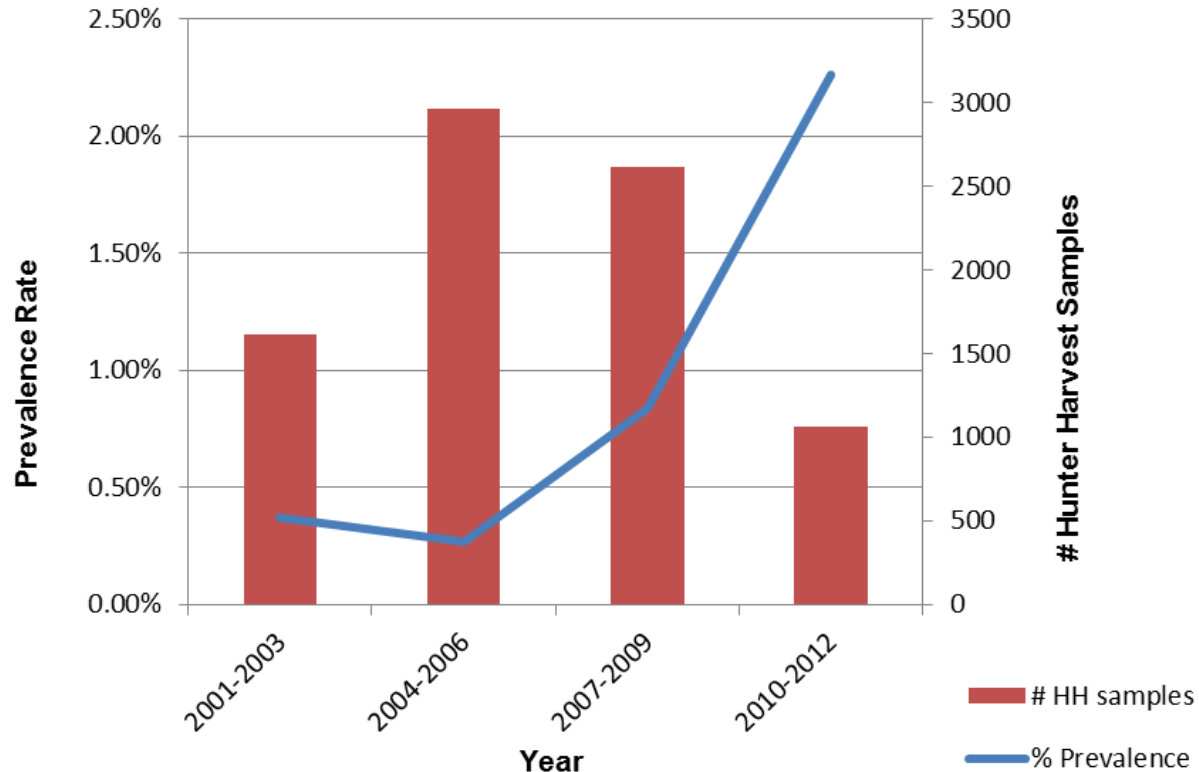
CWD Positive White-tailed Deer



CWD prevalence in hunter harvested WTD



CWD Prevalence in WTD 2001 - 2012

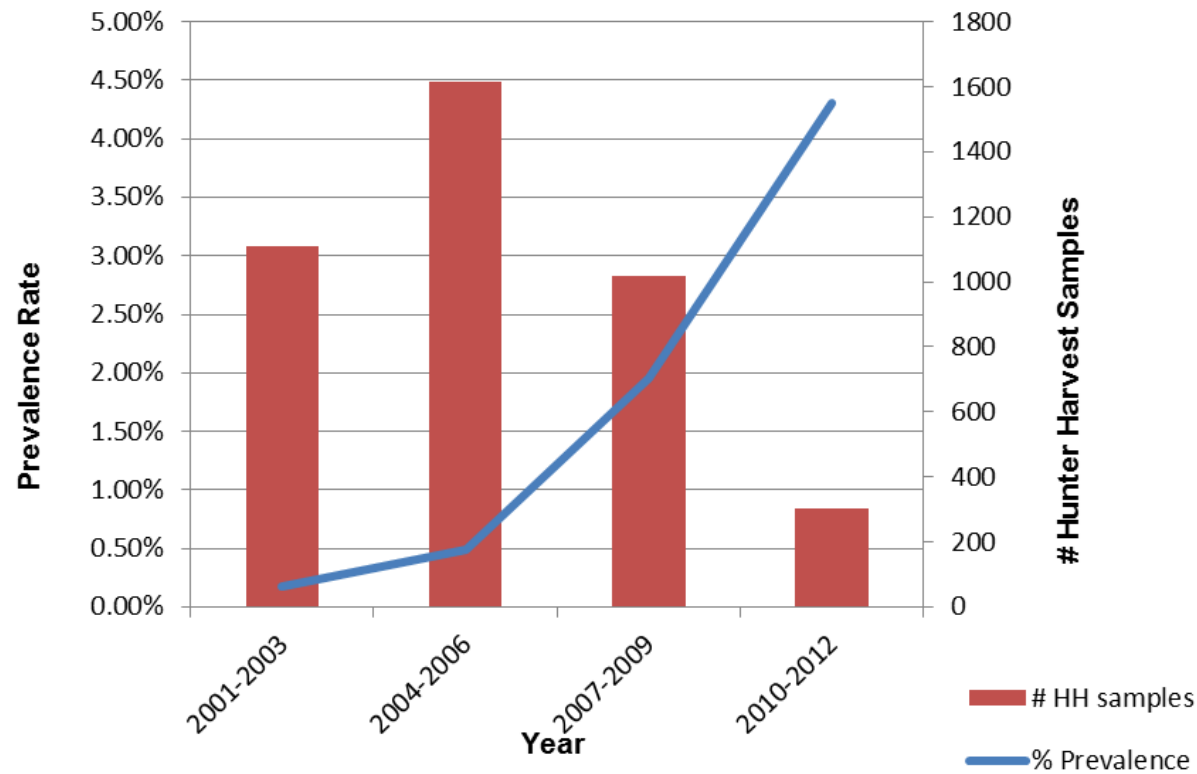


* 3 year averages

CWD prevalence in hunter harvested MD



CWD Prevalence in MD 2001 - 2012



* 3 year averages



Impacts of CWD on Deer Populations

- Very difficult to determine the extent of impacts of CWD on deer herds without extensive research.
- Wyoming research has found prevalence rates of 21%-27% in mule deer, and 24% in white-tailed deer in certain areas. These areas are showing low population growth rates when compared to CWD free areas.
- Population effects of CWD on South Dakota deer herds are unknown.



Management Considerations

- Currently there are no wildlife management tools or strategies to eradicate CWD once it is established.
- Vaccines for CWD are currently unavailable.
- Prions are virtually indestructible and can persist in the environment for many years.
- Current and past plans of action
 - Conduct surveillance from symptomatic deer and hunter harvested deer to determine the prevalence and distribution of the disease in South Dakota.
 - Test symptomatic deer from all areas of South Dakota to determine new areas of infection.
 - Prevent the spread of CWD by eliminating the movement of known infected cervids to uninfected areas.



Epizootic Hemorrhagic Disease (EHD)

- *Epizootic* – outbreak of animal disease characterized by rapid spread over a wide area.
- *Hemorrhagic* – profuse bleeding from ruptured blood vessels.
- *Disease* – caused by a virus (*Orbivirus*) that is spread by a vector such as a biting midge.
- EHD and BT (blue tongue) are diseases caused by related but genetically distinct viruses, collectively called Hemorrhagic Disease.



Signs and Symptoms

- Symptoms vary depending on virulence of the virus and resistance of the deer:
 - Fever (infected deer often found near water sources).
 - Lethargic, disoriented.
 - Swelling of head, neck, tongue or eyelids.
 - Respiratory distress.
 - Internal hemorrhaging.
 - Chronic forms may cause erosion of the dental pad, ulcers on the tongue, lesions in rumen lining.

Deer with EHD symptoms

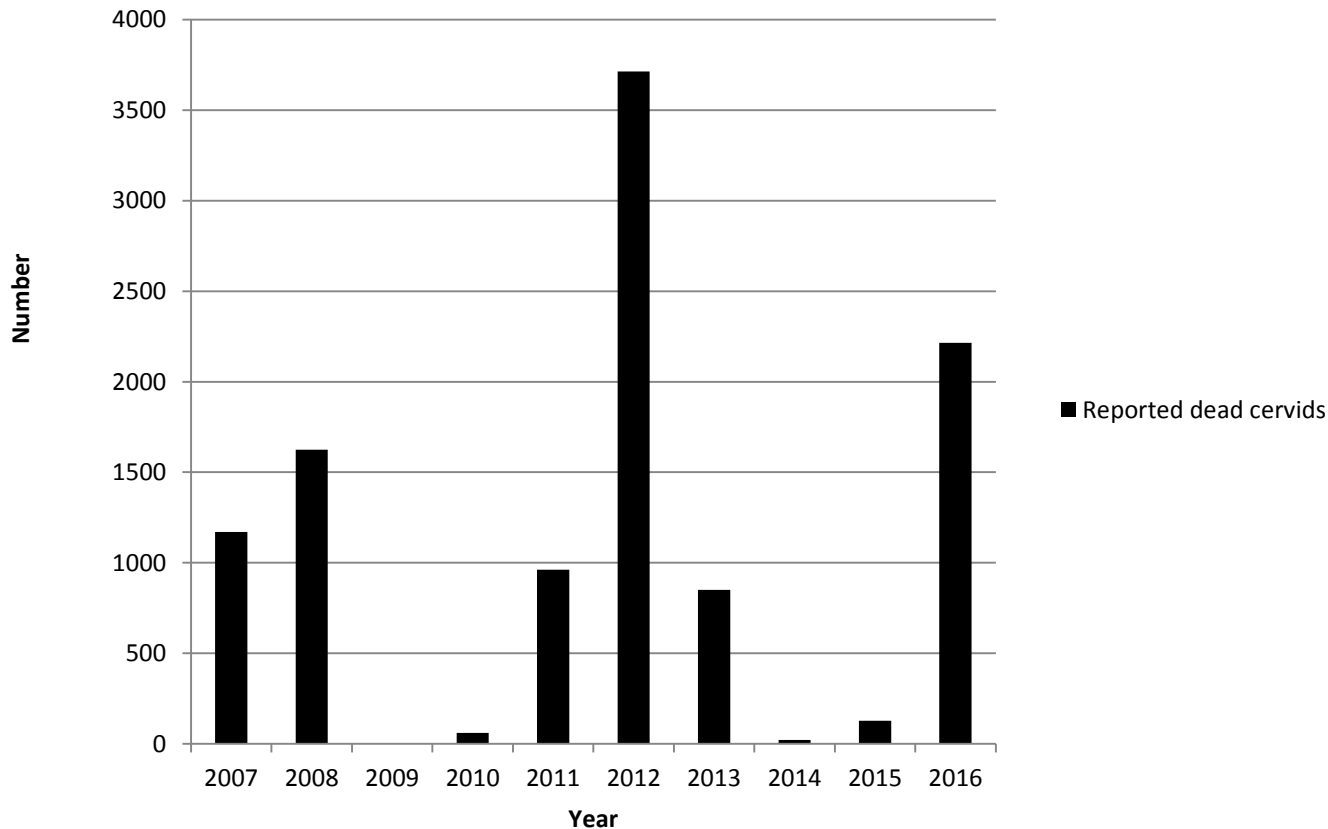


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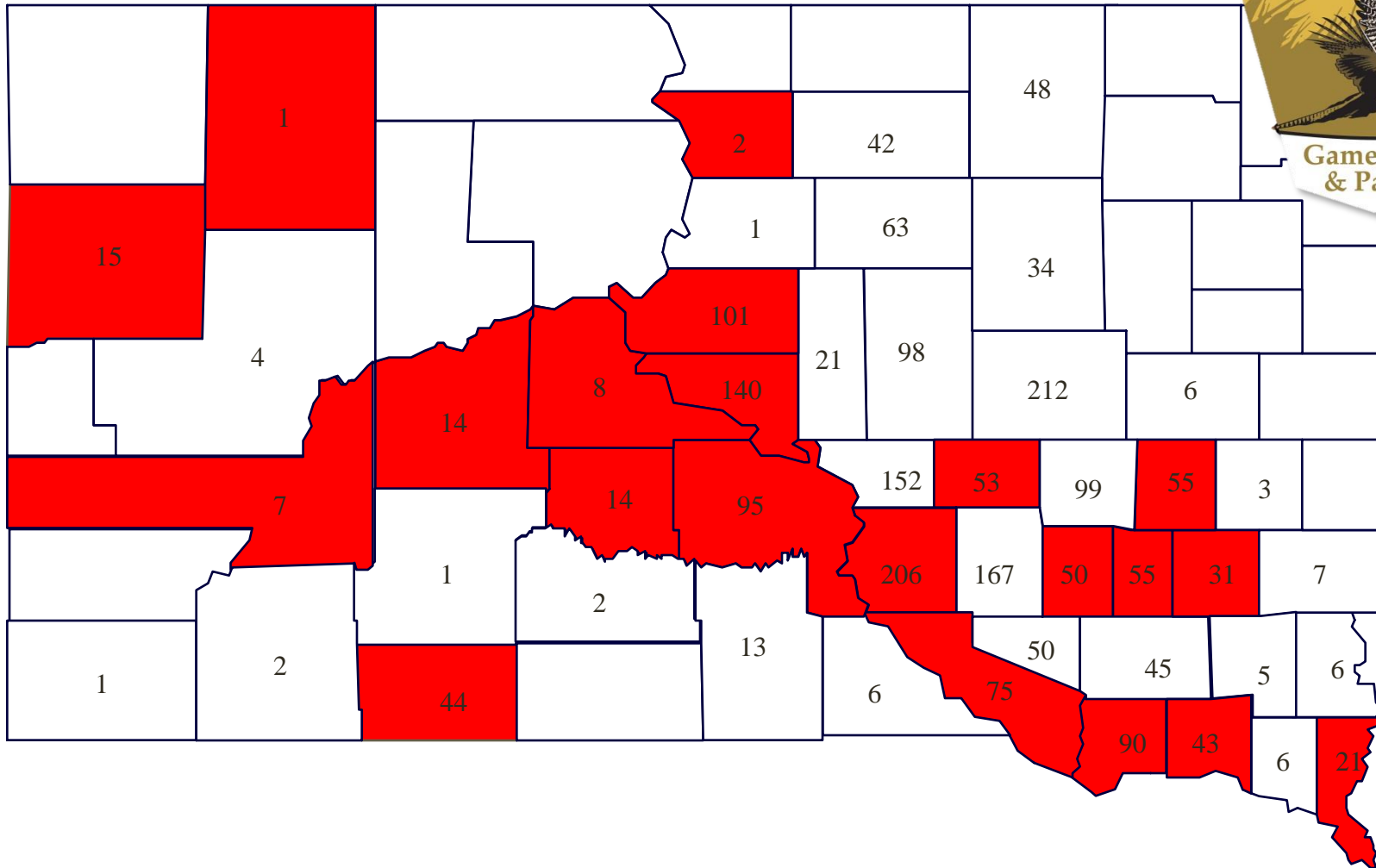
History of recent EHD outbreaks in South Dakota



EHD/BT reports by year in South Dakota 2007-2016



2016 EHD Reports



Red counties indicate a confirmed positive EHD result. Numbers indicate reported dead deer per county that are on the disease database. 2214 total dead deer reported as of 11-30-16 (includes lab submission positives and submissions). 27 positive results in 21 counties -Davison, Stanley, Sully, Pennington, Butte, and Union have 2 positives confirmed in each county. One of Pennington is a pronghorn BT positive.

As of 11-30-16



Management Considerations

- Nothing we can do to prevent Hemorrhagic Disease.
- Current and past plans of action
 - test deer to verify cause of sickness or death as HD.
 - record all reported deer losses.
 - consider removal of leftover tags in areas where the disease is significantly affecting the current population.
 - consider refunds to hunters who voluntarily return hunting licenses from affected areas.
 - consider disease losses in future season setting process (license numbers and types).

Disease Database



Wildlife Disease Cases

[Search](#) | [Enter New Lab Submission](#) | [Enter Animal Mortality](#) | [Enter Fish Mortality](#)

SEARCH FOR LAB SUBMISSION

SEARCH FOR ANIMAL MORTALITY

Date Range: 07/01/2016 - 12/06/2016

[Enter new animal mortality >>](#)

Region:

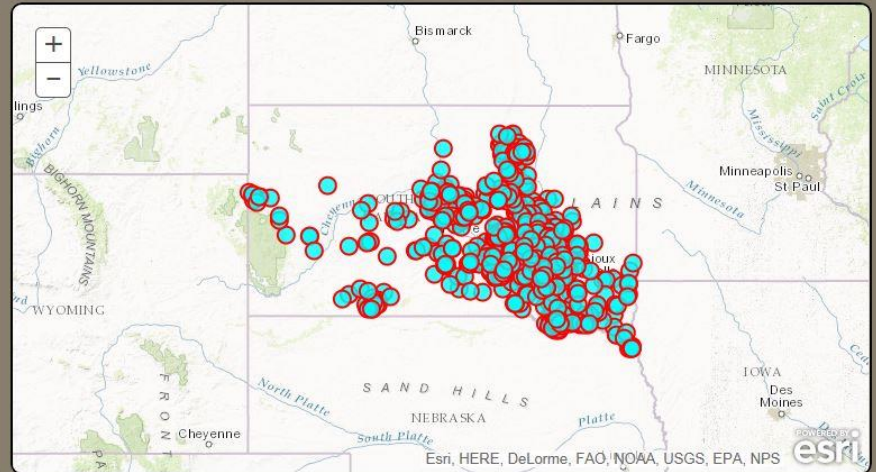
County:

Species:

Suspected Cause of Death:

[List all animal mortalities >](#)

SEARCH FOR FISH MORTALITY



Search Results - Animal Mortality

Click Case ID or double-click record to edit

Case ID	Species	# of Animals	County	Date	Verified	Suspected Cause of Death
2724	White-tailed Deer	27	Hutchinson	11/29/2016	NO	Hemorrhagic Disease
2725	White-tailed Deer	2	Kingsbury	11/29/2016	NO	Hemorrhagic Disease
2726	White-tailed Deer	2	Kingsbury	11/29/2016	NO	Hemorrhagic Disease
2727	White-tailed Deer	15	Hanson	11/29/2016	NO	Hemorrhagic Disease
2728	White-tailed Deer	15	McCook	11/29/2016	NO	Hemorrhagic Disease
2729	White-tailed Deer	7	Bon Homme	11/29/2016	NO	Hemorrhagic Disease
2730	White-tailed Deer	30	Charles Mix	11/29/2016	NO	Hemorrhagic Disease
2731	White-tailed Deer	2	Bon Homme	11/29/2016	NO	Hemorrhagic Disease
2732	White-tailed Deer	2	Bon Homme	11/29/2016	NO	Hemorrhagic Disease
2733	White-tailed Deer	2	Bon Homme	11/29/2016	NO	Hemorrhagic Disease
2719	White-tailed Deer	1	Pennington	11/26/2016	YES	Hemorrhagic Disease



Questions???